

Professor Emeritus P. G. Niarchos



I. Personal Details

Name: Panagiotis G. NIARCHOS
Place of birth: Arfara Messinias, Greece
Marital status: Married with two children
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Education

First Degree

- Title of studies: B.Sc. in Mathematics
- Country: Greece
- University: National and Kapodistrian University of Athens
- School – Faculty: School of Science, Faculty of Mathematics

Postgraduate Studies

- Title of studies: M.Sc. in Astronomy
- Country: United Kingdom
- University: Victoria University of Manchester
- Faculty-Department: Faculty of Science, Department of Astronomy
- Study dates: January 1975 - January 1976
- Thesis Title: **An analysis of the light changes of the eclipsing system AK Herculis in the Frequency Domain**
(Supervisor Prof. Z. Kopal)

Doctoral studies

- Title of studies: Ph.D. in Astronomy
- Country: United Kingdom
- University: Victoria University of Manchester
- Faculty-Department: Faculty of Science, Department of Astronomy
- Study dates: January 1976 - December 1977
- Thesis Title: **A study of W UMa-type stars**
(Supervisor Prof. Z. Kopal)

Dissertation d'habilitation (Διατριβή επί υφηγεσία), 1982

Membership in scientific organizations

Member of the International Astronomical Union
(Divisions C, F, G, Commissions C2, F2, G1)
Member of the Hellenic Astronomical Society
Member of the Hellenic Mathematical Society
Member of the International Scientific Society of Ancient Greek
Philosophy (Board Member)

II. Positions held

1996 – 2002	Head of the Department of Astrophysics, Astronomy and Mechanics, Faculty of Physics, University of Athens
1997 – 2012	Director of the Laboratory of Astronomy, Faculty of Physics, University of Athens
1999 – 2012	Director of the Athens University Observatory
2002 – 2004	Vice-Chairman of the Faculty of Physics, University of Athens
2008 – 2012	Head of the Department of Astrophysics, Astronomy and Mechanics, Faculty of Physics, University of Athens

III. International distinctions

1. Referee in international journals of Astronomy & Astrophysics
2. Co-editor of the Bulletin on Bibliography of Close Binary Stars, Commission 42 of the International Astronomical Union (IAU)
3. Invitation from the French Astronomical Society to contribute with my article "*A comparison between the Roche model and the model of triaxial ellipsoids in close binary systems*" to a book devoted to the great astronomer and mathematician E. Roche
4. Reviewer of Proposals in Astronomy for the Grant Agency of the Czech Republic
5. External examiner in M.Sc. and Ph.D. theses abroad
6. Associate member of the GAIA (ESA) working groups on: Photometry, Radial Velocities and Double and Multiple Stars
7. Member of the **E**uropean **N**etwork of **E**xcellence in **A**Steroseismology (ENEAS)
8. Invited speaker in the **XXVIth General Assembly of IAU, Symposium 240**, Prague, 14-26 August, 2006
9. Invited speaker in the **IAU Symposium 282**, Tatranska Lomnica, Slovakia, 18-22 July, 2011
10. Member of the Scientific Organizing Committee of Commission 42 (Close Binaries) of the International Astronomical Union (IAU) for six years, 2006 - 2012.

IV. Research Interests

Variable Stars – Interacting Binaries – Stellar Photometry – Asteroseismology – Extrasolar planets

- Ground-based and Space Photometric Observations of Variable Stars (Eclipsing Binaries, Symbiotic Stars, Cataclysmic Variables, Pulsating Stars)
- Reduction and analysis of observations
- Light curve analysis and Derivation of Physical Parameters
- Spot modelling of Close Binary Stars
- Evolution of Contact Binaries
- Asteroseismology
- Exoplanets

V. Courses taught

- **General Astronomy I** at the Department of Mathematics of the University of Athens
- **General Astronomy II** at the Department of Mathematics of the University of Athens
- **Laboratory Exercises in General Astronomy** at the Department of Mathematics of the University of Athens
- **Observational Astrophysics** at the Faculty of Physics of the University of Athens
- **Laboratory Exercises in Astrophysics** at the Faculty of Physics of the University of Athens
- **Methods of Astronomical observations and Data Reduction** at the Faculty of Physics of the University of Athens (postgraduate course).

VI. Students, post-docs and visiting scientists

Students

- G. Pantazis, Ph.D., 2001
- V. Manimanis, Ph.D., 2003
- K. Gazeas, Ph.D., 2006
- O. Giannakis, Ph.D., 2008
- B. Ulas, Ph.D., Canakkale University, Turkey

(Co-supervision for the period 2006-2007)

- A. Liakos, Ph.D., 2012
- D. Aslanidis, M.Sc., 2000
- O. Giannakis, M.Sc., 2001
- K. Gazeas, M.Sc., 2002
- Ch. Vamvatira-Nakou, M.Sc., 2008
- G.-P. Gradoula, M.Sc., 2008
- A. Liakos, M.Sc., 2008
- M. Kaltsa, M.Sc., 2009
- S. Petridou, M.Sc., 2010
- A. Petropoulou, M.Sc., 2010

Post-docs

- V. Manimanis, 2004 – 2008

Visiting Scientists – Fellowships

- Pustylnick, Dr. of Science, Department of Astronomy, Tartu Observatory, Estonia, 31/3-27/5/1999
- Dr. S. Zola, Department of Astronomy, Jagiellonian University, Cracow, Poland, 24/9-5/11/1999
- Prof. I. Andronov, Department of Astronomy, Odessa State University, Ukraine, 14/2-14/4/2000
- Dr. L. Hric, Senior Researcher, Astronomical Institute of the Slovak Academy of Science, Slovak Republic, 9/8-9/11/2000
- Dr. A. Yushchenko, Senior Scientific Researcher, Odessa State University, Ukraine, 31/5-31/7/2001
- P. Zasche, Ph.D. (student), Department of Astronomy and Astrophysics, Charles University of Prague, Czech Republic, 21/10/ - 20/11/2005
- B. Ulas, Ph.D. (student), Cannakale University, Turkey. (October 2006 – June 2007), ERASMUS/SOCRATES programme.

VII. Public Outreach

As part of my education and outreach duties, I manage the public night programs at the Gerostathopoulion Observatory of the University of Athens (<http://observatory.phys.uoa.gr>) from 2000 – 2012.

VIII. Publications

Books

1. P.G. Niarchos (with P.G. Laskarides) : *Laboratory exercises in Astronomy*, (in Greek), Athens 1980.
2. P.G. Niarchos (with H. Linaniou, P. Rovithis): *Elementary Astronomy and Space Science*, (in Greek), Athens 1986. (Second prize from the Greek Ministry of Education and Religious Affairs)
3. P.G. Niarchos (with H. Livaniou): *Introduction to Observational Astrophysics* , (University Class Notes, in Greek).
4. P.G. Niarchos (with H. Livaniou, Th. Papagiannopoulos, D. Papathanasoglou): *Introduction to General Astronomy* , (University Class Notes, in Greek).
5. P.G. Niarchos (with C. Gavrilis, M. Metaxa, C. Papamichalis): *Introduction to Astronomy and Space Science*, (in Greek), Athens 1999. (First prize from the Greek Ministry of Education and Religious Affairs)
6. P.G. Niarchos (Editor): *Accretion Processes in Astrophysical Environments*, Proceedings of the International Workshop held in Athens, January 16, 1999.
7. P.G. Niarchos: *Introduction to Astronomical Photometry*, (in Greek), Athens, 2003, 2008.
8. P.G. Niarchos (co-author with 10 other authors): *Laboratory Exercises in Astrophysics*, (in Greek), Athens 2005.
9. P.G. Niarchos (with A. Gimenez, E. Guinan, S. Rucinski) (Editors): *Close Binaries in the 21st Century: New Opportunities and Challenges*, Proceedings of the International Conference held in Syros, 27-30 June 2005 (Springer).

Papers - articles

There are more than **320** publications in total, from which **300** in NASA Astrophysics Data System (**ADS**). The number of **refereed papers is 160** (ADS). Click [here](#) (type the name Niarchos, P.) for the NASA ADS listing of my publications. There are more than 1700 citations.

List of selected publications

- 1. Niarchos, P.**, "An Analysis of the Light Changes of the eclipsing system AK Herculis in the Frequency Domain", *Astrophys. Space Sci*, 47, 79, 1977.
- 2. Niarchos, P.**, "Fourier Analysis of the Light Curves of W UMa type stars", *Astrophys. Space Sci*. 58, 301, 1978.
- 3. Niarchos, P.**, "On the evaluation of the Photometric Proximity Effects of close eclipsing Systems", *Astrophys. Space Sci*. 76, 503, 1981.

- 4. Niarchos, P.,** "A comparison of the Roche model with the model of triaxial ellipsoids in close binary systems", *Acta Astronomica*, Vol. 35, No. 3, 433, 1985.
- 5. Niarchos, P.G., Duerbeck, H.,** "The intractable W UMa system AE Phe:light curve synthesis and the mass-ratio problem", *Astron. Astrophys.*, 247, 399, 1991
- 6. Niarchos, P.G., Hoffmann, M. and Duerbeck, H.W.,** "RT Leonis Minoris: a Spotted W Ursae Majoris system", *Astron. Astrophys. Suppl. Ser.* 103, 39, 1994.
- 7. Lazaro, C., Niarchos, P.G., Arevalo, M., Rovithis, P., Rovithis-Livaniou, H. and Antonopoulou, E.,** "Study of the GR Tau from Visual and Infrared Observations", *Astron. J.*, 110, 1796, 1995.
- 8. Pantazis, G., Niarchos, P.G.,** 'An observational approach for the determination of gravity darkening in contact binaries of W UMa type', *A&A* 335, 199, 1998
- 9. Pustynnik, I., Niarchos, P.G. ,** "Evidence for a Hot Spot in the Contact Binary VW Cephei", *A&A* 361, 982, 2000.
- 10. Manimanis, V., Niarchos, P.G.,** "A photometric Study of the near-contact system RU UMi", *A&A* 369, 960, 2001.
- 11. Theodossiou, E., Niarchos, P. G., Manimanis, V. N., Orchiston, W.,** " The fall of a meteorite at Aegon Potami in 467/6 BC", *JAHH* 5, 135, 2002.
- 12. Niarchos, P.G., Manimanis, V.,** " On the performance of GAIA on photometry of eclipsing binaries: the case of four near-contact and contact binaries", *A&A*, 405, 263, 2003
- 13. Niarchos, P.G., Gazeas, K.,** "CCD Photometry and modeling of the overcontact system NSV 223", *Baltic Astronomy*, Vol. 13, p.138, 2004.
- 14. Niarchos, P.G.,** 'Contact Binaries: A Study of the Proximity Effects and Gravity Darkening Based on Kopal's Fourier Method', *Ap&SS* 296, 265, 2005
- 15. Gazeas, K. D., Niarchos, P., Zola, S., Kreiner, J.M., Rucinski, S.M.,** 'Physical Parameters of Components in Close Binary Systems: VI', *Acta Astronomica* 56, 127, 2006.
- 16. Gazeas, K.D., Niarchos, P.G.,** 'Masses and angular momenta of contact binary stars', *MNRAS* 370, L29, 2006.
- 17. Niarchos, P.,** 'On the GAIA expected harvest on Eclipsing Binaries', *Ap&SS* 304, 387, 2006.
- 18. Niarchos, P. G., Munari, U., Zwitter, T.,** "Evaluating the Gaia Contribution to the Field of Eclipsing Binaries with Ground-Based Spectroscopy and Hipparcos Photometry", in *Binary Stars as Critical Tools & Tests in Contemporary Astrophysics, Proceedings of IAU Symposium #240, held 22-25 August, 2006 in Prague, Czech Republic. Edited by W.I. Hartkopf, E.F. Guinan and P. Harmanec. Cambridge: Cambridge University Press, 2007., pp.244-249 (Invited speaker).*
- 19. Manimanis, V., Niarchos, P.,** " The first photometric analysis of the near-contact binary star V370 Cyg", *Ap&SS* 310, 153, 2007.
- 20. Liakos, A., Niarchos, P.,** "Observations of candidate oscillating eclipsing binaries and two newly discovered pulsating variables", *CoAst* 160, 2, 2009.

- 21. Villforth, C. et al. (Niarchos, P, coauthor),** "Variability and stability in blazar jets on time-scales of years: optical polarization monitoring of OJ 287 in 2005-2009", MNRAS 402, 2087, 2010.
- 22. Liakos, A., Niarchos, P.** " New pulsation analysis of the oscillating eclipsing binary BG Peg", Communications in Asteroseismology, 162, 73, 2011.
- 23. Niarchos, P.,** "Ground-Based and Space Observations of Interacting Binaries", in *From Interacting Binaries to Exoplanets: Essential Modeling Tools, Proceedings of the International Astronomical Union. Edited by M. T. Richards and I. Hubeny, IAU Symposium, Volume 282, p. 21-26, 2012 (Invited speaker).*
- 24. Liakos, A., Niarchos, P., Budding, E.,** "A new insight on the evolutionary status and third body hypothesis of the eclipsing binaries AD And, AL Cam and V338 Her", Astronomy & Astrophysics, 539, 129, 2012.
- 25. Liakos, A., Niarchos, P., Soydugan, E., Zasche, P.,** "Survey for δ Sct components in eclipsing binaries and new correlations between pulsation frequency and fundamental stellar characteristics", Monthly Notices of the Royal Astronomical Society, 422, 1250, 2012.
- 26. Liakos, A., Niarchos, P.,** "The oEA stars QY Aql, BW Del, TZ Dra, BO Her and RR Lep: Photometric analysis, frequency search and evolutionary status", Astrophysics and Space Science, 343, 123, 2013.
- 27. Makris, D., Niarchos, P., Gazeas, K.** "An Application of Kopal's Method for the Analysis of Transit Light Curves of Exoplanets Using Powerful Modern Algorithms", ASP Conference Series, Vol. 496, 354, 2015.
- 28. Liakos, A., Niarchos, P.** " Binaries with a δ Scuti Component: Results from a Long-Term Observational Survey, Updated Catalog, and Future Prospects", ASP Conference Series, Vol. 496, 195, 2015.
- 29. Ribas, I. et al. (Niarchos, P. coauthor).** "Division V: Commission 42: Close Binaries", Transactions IAU, Volume 10, Issue T28, pp. 126-127, 2015.
- 30. Liakos, A., Niarchos, P.** "Catalogue and properties of δ Scuti stars in binaries", MNRAS, Vol. 465, 118, 2017.